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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/663,645	09/17/2003	Naruhiko Kasai	501.43145X00	3793

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EXAMINER

XIAO, KE

ART UNIT

PAPER NUMBER

2629

DATE MAILED: 06/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/663,645

Applicant(s)

KASAI ET AL.

Examiner

Ke Xiao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>9/17/2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4, 6, 8-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Sagano (US 2003/0011545).

Regarding independent **Claim 1**, Sagano teaches a display apparatus (Sagano, Fig. 1) comprising:

a display unit including a plurality of display elements arranged in a matrix (Sagano, Figs. 1 and 3);

a drive voltage generating circuit for generating a drive voltage for driving said plurality of display elements (Sagano, Fig. 1 element 5 and high voltage generator);

a dataline drive circuit for generating a signal voltage according to display data, the signal voltage being for controlling the amount of current in a supply line of the drive voltage (Sagano, Fig. 1 element 5);

a scanline drive circuit for selecting one or more of the plurality of display elements which is to be driven (Sagano, Fig. 1 element 2 and 2'); and

a control circuit for controlling a light emission time period for each display element according to a distance measured along a current path from the drive voltage generating circuit to each display element (Sagano Figs. 1 elements 8, 12 and 15 and Figs. 9A-9C).

Regarding independent **Claim 10**, Sagano teaches a display apparatus (Sagano, Fig. 1) comprising:

a display unit including a plurality of display elements arranged in a matrix (Sagano, Fig. 1 and 3);

a drive voltage generating circuit for generating a drive voltage for driving said plurality of display elements (Sagano, Fig. 1 element 5 and high voltage generator);

a dataline drive circuit for generating a signal voltage according to display data, the signal voltage being for controlling the amount of current in a supply line of the drive voltage (Sagano, Fig. 1 element 5); and

a scanline drive circuit for selecting one or more of the plurality of display elements, which is to be driven (Sagano, Fig. 1 element 2 and 2');

wherein a light emission time period of each display varies according to a location of each display element (Sagano Figs. 1 elements 8, 12 and 15 and Figs. 9A-9C).

Regarding **Claim 2**, Sagano further teaches that the plurality of display elements exhibit a same luminance level when they emit light if they display data is set to a same value (Sagano, Pg. 1 paragraph [0013]).

Regarding **Claim 3**, Sagano further teaches a cutoff circuit for cutting off a supply of the drive voltage to the plurality of display elements according to a control signal from the control circuit (Sagano, Figs. 1 element 8 and 9A-9C).

Regarding **Claim 4**, Sagano further teaches that the control circuit increases the light emission time period with increasing distance of each display element from the drive voltage generating circuit (Sagano, Figs. 3 and 10A-10C).

Regarding **Claim 6**, Sagano further teaches that the control circuit increases increment of the light emission time period with increasing gray scale value of the display data (Sagano, Fig. 1 elements 9, 12-15, 17).

Regarding **Claim 8**, Sagano further teaches that the control circuit inserts black display data into the display data and controls either a timing or a time of the insertion of the black display data, or both, so as to control the light emission time period (Sagano, Figs. 9A-9C).

Regarding **Claim 9**, Sagano further teaches wherein the control circuit inserts additional display data into the display data and controls either a timing or a time of the insertion of the additional display data or both, the additional display data having a luminance level lower than that of the display data (Sagano, Fig. 9A-9C).

Regarding **Claim 11**, Sagano further teaches a control circuit for controlling the light emission time period according to the location (Sagano, Figs. 10A-10C).

Regarding **Claim 12**, Sagano further teaches that the plurality of display elements exhibit a same luminance level at a time of emitting light, the light emission

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time period of each display element varies according to the location (Sagano, Figs. 10A-10C, Pg. 1 paragraph [0013]).

Regarding **Claim 13-16**, Sagano further teaches that a light emission time period of a display element in an upper row is shorter than that of a display element in a lower row, a display element in an lower row is shorter than that of a display element in an upper row, a display element in a left column is shorter than that of a display element in a right column or a display element in a right column is shorter than that of a display element in a left column, the display element in the upper row and the display element in the lower row being among the plurality of display elements (Sagano, Figs. 3, 10A-10C specifically depending on which side of the display the drivers are located the relative length of emission time periods of the display can be any one of the above explained examples).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sagano (US 2003/0011545) in view of Odagiri (US 6,291,942).

Regarding **Claim 5**, Sagano teaches a control circuit that increases increment of the light emission time period, but fails to teach a detection circuit used in conjunction

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with the control circuit for detecting the amount of current in the supply line of the drive voltage as claimed.

Odagiri teaches a detection circuit for detecting the amount of current in the supply line of the drive voltage; and increases the increment of light emission time period with increasing amount of current in the supply line of the drive voltage (Odagiri, Col. 2 lines 13-48). It would have been obvious to one of ordinary skill in the art at the time of the invention to add the detection circuit of Odagiri to the control circuit of Sagano and allow the control circuit to further increase the emission time period as taught by Odagiri in order to prevent image degradation (Odagiri, Col. 2 lines 7-12).

Regarding **Claim 7**, Sagano teaches a control circuit that increases increment of the light emission time period, but fails to teach a detection circuit used in conjunction with the control circuit for detecting the amount of current in the supply line of the drive voltage as claimed.

Odagiri teaches a detection circuit for detecting a luminance level of the plurality of display elements when they emit light; and increases the increment of light emission time period with increasing amount of current in the supply line of the drive voltage (Odagiri, Col. 2 lines 13-48). It would have been obvious to one of ordinary skill in the art at the time of the invention to add the detection circuit of Odagiri to the control circuit of Sagano and allow the control circuit to further increase the emission time period as taught by Odagiri in order to prevent image degradation (Odagiri, Col. 2 lines 7-12).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ke Xiao whose telephone number is (571)272-7776. The examiner can normally be reached on Monday through Friday from 8:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

June 6th, 2006 - kx -


SUMATI LEFKOWITZ
SUPERVISORY PATENT EXAMINER